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10/541,074

06/29/2005

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EXAMINER

TOUSSAINT, DALILA

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4152

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/541,074	Applicant(s) BOERSEN ET AL.	
	Examiner DALILA TOUSSAINT	Art Unit 4152	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 13-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>06/29/2005</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

1. This action is responsive to the non-provisional application filed on June 29, 2005. Claims 1-17 are pending. Claims 1 and 13 are independent.

Election/Restrictions

2. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group **A**, claim(s) 1-12, drawn to a method for producing whey powder.

Group **B**, claim(s) 13-17, drawn to device used to produce whey powder.

3. The inventions listed as Groups A and B do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: the common technical feature in all groups is the whey powder. This element cannot be a special technical feature under PCT Rule 13.2 because the element is shown in the prior art. US Patent 5006204 teaches the method of producing whey powders as claimed in claims 1-12 and further indicates that this feature could be applied to another device for producing whey powder. The reference specifically suggests making this type of product particularly by way of spray drying to form the powder.

4. During a telephone conversation with Mr. Sheridan Neimark on 7/24/08 a provisional election was made with traverse to prosecute the invention of Group A, claims 1-12. Affirmation of this election must be made by applicant in replying to this Office action. Claims 13-17 stand withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

1. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Specification

5. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, **claims 1 and 3** recites the broad recitation "at least 75 deg C", and the claim also recites "at least 85 deg C" which is the narrower statement of the range/limitation.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. Claims **1**, **3**, and **5** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Peters et al. US Publication WO 00/72692 A1**, and further in view of **Henningfield et al. US Patent 6,790,288 B2**.

a. Referring to **claim 1**, Peters et al. teaches:

(1) A method for producing whey powder, comprising of the steps of:

- (a) Providing a whey concentrate with a dry matter content of at least 45% (Peters et al.; page 3, line 33),
- (b) Crystallizing lactose which is present in the whey concentrate (Peters et al.; page 8, line 9),

- (c) Finely dispersing the whey concentrate, and
- (d) Drying the finely dispersed whey concentrate to form a whey powder with sufficient free moisture for recrystallization (Peters et al.; page 14, line 4-6), with the aid of a drying gas, wherein a heating step, in which the whey concentrate is held at a temperature of at least 75 deg C, in particular at least 85 deg C (Peters et al.; page 7, line 30), for a time of between 0.25 minutes and 5 minutes, is carried out between step (a) and step (b) (Peters et al.; page 11-13)

However, Peters et al. does not explicitly disclose having a heating step for a time between 0.25 minutes and 5 minutes. Henningfield et al. provides explicit, analogous, teaching where the concentrate from the flash separator "evaporator" have a residence time of approximately 4 minutes (Henningfield et al.; column 7, line 14-20). Henningfield et al. is thus able to provide a non-caking and free-flowing properties product (Henningfield et al.; column 6, line 54-55). At the time of invention it would have been obvious to one skilled in the art, having teaching of Peters et al. and Henningfield et al. before him or her, to modify Peters et al. to include the heating step for a time between 0.25 minutes and 5 minutes of Henningfield et al.

b. Referring to **claim 3**, Peter et al. teaches:

- (2) The method according to claim 1, wherein in the heating step the whey concentrate is held at a temperature of at least 75

deg C, in particular at least 85 degree C (Peters et al.; page 7, line 30), for a time of between 0.5 and 4 minutes.

However, Peters et al. does not explicitly disclose having a heating step for a time between 0.5 minutes and 4 minutes. Henningfield et al. provides explicit, analogous, teaching where the concentrate from the flash separator "evaporator" have a residence time of approximately 4 minutes (Henningfield et al.; column 7, line 14-20). Henningfield et al. is thus able to provide a non-caking and tree-flowing properties product (Henningfield et al.; column 6, line 54-55).

c. Referring to **claim 5**, Peters et al. teaches:

(3) The method according to claim 1, wherein in the heating step the whey concentrate is held at a temperature of between 90 and 95 degree C (Peters et al.; page 7, line 30) for a time of between 0.5 and 3 minutes.

However, Peters et al. does not explicitly disclose having a heating step for a time between 0.5 minutes and 3 minutes. Henningfield et al. provides explicit, analogous, teaching where the concentrate from the flash separator "evaporator" have a residence time of approximately 4 minutes (Henningfield et al.; column 7, line 14-20). Henningfield et al. is thus able to provide a non-caking and tree-flowing properties product (Henningfield et al.; column 6, line 54-55).

11. Claims **2, 8, 11, and 12** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Peters et al. US Publication WO 00/72692 A1** and **Henningfield et al. US Patent 6,790,288 B2** in view of **Peebles et al. US Patent 2,088,608**.

d. Referring to **claim 2**, Peters et al. teaches:

(4) The method according to claim 1, wherein at the end of the spray-drying step, the free moisture content is between 8% and 13%.

Peters et al. and Henningfield et al. disclose all the limitation of the parent claim 1. However, Peter et al. does not explicitly disclose “the free moisture content between 8% and 13%”. Peebles et al. discloses having a “typical instance where the free moisture content of the spray dried material about 12 to 14%” (Peebles et al.; page 2, column 1, line 43-45). Peebles et al. discloses the claim which differ in that the free moisture content range does not teach the exact same proportions as recited in the instant claim.

However, one of ordinary skilled in the art at the time the invention was made would have considered the invention obvious because the compositional proportions taught by Peebles et al. overlap the instantly claimed proportions. At the time of invention it would have been obvious to one skilled in the art, having teaching of Peters et al. and Henningfield et al. before him or her, to modify Peters et al. to include the free moisture content of the spray dried material about 12% to 14% of Peebles et al. It would have been obvious to one of ordinary skill in the art to select any portion of the disclosed ranges including the instantly claimed ranges from the ranges disclosed in the prior art reference. *In re Malagari*, 182 USPQ 549, 553 (CCPA 1974) and MPEP 2144.05

e. Referring to **claim 8**, Peters et al. teaches:

(5) The method according to claim 1, wherein fine particles which originate from the drying step and are entrained with the drying gas are filtered with the aid of a filter (Peters et al.; figure 2, #17).

Peters et al. discloses the limitations of claim 8, however it does not explicitly disclose a filter. Peebles et al. discloses having the option of delivering the suspension of the drying gas to a separator i.e. filter of the bag type (Peebles et al.; page 3, column 2, line 5-15).

At the time of invention it would have been obvious to one skilled in the art, having teaching of Peters et al. and Peebles et al. before him or her, to modify Peters et al. to include the bag type filter of Peebles et al. Peters et al. and Peebles et al. are analogous because they are processing a milk derived concentrate. The motivation for doing so would be to remove fine particles from the drying gas and create a closed loop connection (Peters et al.; figure 2, #11).

f. Referring to **claim 11**, Peters et al. teaches:

(6) The method according to claim 8 wherein dry particles are fed to the discharge drying gas.

Peters et al. discloses the limitations of claim 8, however it does not explicitly disclose dry particles fed to the discharged drying gas. Peebles et al. discloses having the option of delivering the suspension of the discharged drying gas to a separator i.e. filter of the bag type (Peebles et al.; page 3, column 2, line 5-15).

At the time of invention it would have been obvious to one skilled in the art, having teaching of Peters et al. and Peebles et al. before him or her, to modify Peters et al. to include the bag type filter of Peebles et al. Peters et al. and Peebles et al. are analogous because they are processing a milk derived concentrate. The motivation for doing so would be to remove fine particles from the drying gas and create a closed loop connection (Peters et al.; figure 2, #11).

g. Referring to **claim 12**, Peters et al. teaches:

(7) The method according to claim 9 wherein the auxiliary gas and/or the dry particles are fed to an inlet, located in the vicinity of a drying chamber, of the drying gas discharge.

However, Peters et al. does not explicitly disclose having the auxiliary gas and/or the dry particles are fed to an inlet, located in the vicinity of a drying chamber, of the drying gas discharge. Henningfield et al. provides explicit, analogous, teaching of an spray drying apparatus comprising of one or more conduits that communicate with the chamber for the introduction of hot air or the like and conduits that enable the withdrawal of exhaust near the upper portion of the chamber (Peebles et al.; page 2, column 2, line 15-25).

At the time of invention it would have been obvious to one skilled in the art, having teaching of Peters et al. and Peebles et al. before him or her, to modify Peters et al. to include the design of Peebles et al. Peters et al. and Peebles et al. are analogous because they are processing a milk derived

concentrate. The motivation for doing so would be to remove fine particles from the drying gas and create a closed loop connection (Peters et al.; figure 2, #11).

12. Claims **4, 6, 7, 9, and 10** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Peters et al. US Publication WO 00/72692 A1** and **Henningfield et al. US Patent 6,790,288 B2**.

Peters and Henningfield teach the invention as discussed above.

h. Referring to **claim 4**, Peters et al. teaches:

(8) The method according to claim 1, wherein the heating step the whey concentrate is heated to a temperature of more than 90 degree C, but less than 110 degree C (Peters et al.; page 7, line 30).

However Peters et al. and claim 4 differ in that the temperature range of the heated step does not teach the exact same proportions as the recited claim. One of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the compositional proportions taught by Peters et al. overlap the instantly claimed proportions and therefore are considered to establish a prima facie case of obviousness. It would have been obvious to one of ordinary skills in the art to select any portion of the disclosed ranges including the instantly claimed ranges from the ranges disclosed in the prior art reference, particularly in view of the fact that;

“ The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a

disclosed set of percentage ranges is the optimum combination of percentages”, *In re Peterson* 65USPQ2d 1379 (CAFC2003).

Also, *In re Geisler* 43 USPQ2d 1365 (Fed. Cir 1997); *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985); *In re Woodruff*, 16 USPQ2d 1934 (CCPA 1976); *In re Malagari*, 182 USPQ 549, 553 (CCPA 1974) and MPEP 2144.05

i. Referring to **claim 6**, Peters et al. teaches:

(9) The method according to claim 1, wherein prior to step b) a dry matter content of at least 55% is created in the whey concentrate (Peters et al.; page 7, line 36-38).

j. Referring to **claim 7**, Peters et al. teaches:

(10) The method according to claim 1, wherein the whey concentrate is a concentrate of whey permeate (Peters et al.; page 8, line 6-7).

k. Referring to **claim 9**, Peters et al. teaches:

(11) The method of claim 1, wherein steps c) and d) are carried out by means of a spray-drying process, in which the whey concentrate is atomized in a drying chamber and drying gas is passed through the atomized whey concentrate, with the spray-dried whey concentrate being collected as a powder and the drying gas being discharged via a drying gas outlet (Peters et al.; page 13, line 2, 7-12).

I. Referring to **claim 10**, Peters et al teaches:

(12) The method according to claim 8 wherein auxiliary gas is fed to a the discharged drying gas in a quantity and at a temperature and relative atmospheric humidity which are such that the combination of the discharged drying gas with entrained fine particles and the supplied auxiliary gas is outside the range in which the entrained fine particles are sticky.

However Peters et al. fails to disclose that the auxiliary gas is being fed to the discharged drying gas as the recited claim. The gas that is discharged from the drying chamber is being fed to a bag type filter. If necessitated, additional gas could be added to facilitate the functionality of the bag type filter to maintain the quality of the entrained gas. The need for an auxiliary supply line present a prima facie case of obviousness would exist, which one skilled in the art would have expected them to add to have the same properties. The specific temperature range and humidity must therefore be considered to have been obvious from known supply line to the bag type filter. Also, the applicant specification does not disclose a type of vacuum or additional feature that would render the auxiliary gas novice in the art. The overall function of supplying non-sticky fine-particles is carried out in the reference with the discharged drying gas resulting in non-caking powder as observed from experimentation data (Peters et al.; table 1). One of ordinary skill in the art need not see the identical problem addressed in a prior art reference to be motivated to apply its teachings. *In re Linter*, 458 F.2d

1013, 173 USPQ 560 (CCPA 1972) (discussed below); In re Dillon, 919 F.2d 688, 16 USPQ2d 1897 (Fed. Cir. 1990).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Keller US Patent 7,241,465 and McCarthy et al. US Patent 5,350,590 teaches methods in the disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DALILA TOUSSAINT whose telephone number is (571)270-7088. The examiner can normally be reached on Monday - Friday, 8:00 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Del Sole can be reached on (571)272-1130. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 4152

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

dt

/Joseph S. Del Sole/
Supervisory Patent Examiner, Art Unit 4152